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FEDERAL COMMUNICATIONS COMMISSION
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November 9, 1992

Donna R. Searcy
Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Re: Notice of Proposed Rule Making
GEN Docket No. 90-314
ET Docket No. 92-100

Dear Ms. Searcy:

Enclosed for filing with the Commission are an original and eleven (11) copies of the comments of Hughes Network Systems, Inc. in the captioned proceedings. The additional five (5) copies of the comments are being provided in order that each Commissioner may be provided with a copy.

Please address any questions concerning this filing to the undersigned.

Respectfully submitted,

F. Thomas Tuttle

Its Attorney

Enclosures

No. of Copies rec'd 0+9
List A B C D E

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of	)	
	)	
Amendment of the Commission's	)	GEN Docket No. 90-314
Rules to Establish New	)	ET Docket No. 92-100
Personal Communications	)	
Services	)	

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FEDERAL COMMUNICATIONS COMMISSION
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COMMENTS OF
HUGHES NETWORK SYSTEMS, INC.

Hughes Network Systems, Inc. (HNS) hereby provides its comments in response to the Commission's Notice of Proposed Rule Making concerning the establishment of new personal communications services (PCS), released August 14, 1992, in the captioned proceedings (NPRM). HNS has a substantial interest in PCS. HNS believes the direction taken by the Commission in its NPRM provides an effective basis for the important decisions to be made in bringing this new family of services into being, and commends the Commission and its staff for the work reflected in the Notice.

INTRODUCTION

HNS is one of the country's leading companies in the development, manufacture, and supply of wireless telecommunications systems. Over the past decade HNS has established a reputation as the industry leader in the development of satellite terminal equipment and the provision of satellite-based communications networks, including both fixed and mobile applications. More recently, HNS has become a significant new entrant in the mobile telephone field, both

domestically and internationally. In this context, HNS' work includes developing and bringing to market the first U.S. manufactured dual mode cellular phone, the development of advanced digital cellular technology that offers the promise of major increases in the capacity of current cellular allocations, and the provision of cellular-based telephone infrastructure systems to developing countries. These activities demonstrate both the range of HNS' interest and its commitment to the future development and growth of mobile and portable telecommunications.

It is from this perspective that HNS commends the Commission both for the approach taken in the proposals for the allocation of spectrum and the adoption of rules for the establishment of new PCS services, and for the sense of urgency exhibited by the Commission. It is important that a suitable foundation be put in place as expeditiously as practical for the planning and implementation of this exciting new family of services, which offers the prospects of benefits to a diverse array of users and continued leadership by U.S. companies in this growing international marketplace.

The Commission has proposed a broad definition of "PCS," in order to give substantial flexibility to providers of equipment and services. The Commission has also embraced the concept of a market structure that allows maximum opportunity for competition and new entry and places primary reliance on market forces and industry action rather than regulation. In

this regard, the Commission has indicated its commitment to allocate sufficient spectrum to permit a broad range of services and technologies to be pursued and implemented by multiple providers, while still offering high quality services at reasonable, low costs to consumers. Finally, the Commission has made clear its determination to shape its policies and rules such that this new family of services may be brought to market as early as possible. As reflected in the specific comments that follow, HNS endorses each of these themes and urges the Commission to move forward based on these policy goals.

SERVICE DEFINITION

HNS agrees with the Commission's proposal that a broad and unrestrictive definition of PCS should be adopted. Several different types of potential uses for PCS have been identified to date, ranging from improved cordless telephones, to microcell pedestrian voice and data services, to wireless PBXs and LANs, to wireless local loops. Within each of these general areas are a variety of possible applications and services. Experience in recent years with telecommunications products and services in general, and wireless technology and mobile services in particular, suggests the wisdom of adopting allocations and rules that will accommodate a broad and flexible array of technologies and services. The mobile services arena will be very dynamic, in terms of both

technology and market requirements, over the coming decade. It is premature to try to fix in place particular services or technologies as the best or only ones to be accommodated. Further, to attempt to draw a narrow or restrictive scope for PCS will necessarily delay the regulatory process, and with it not only licensing and implementation but also technology development, while the relative merits of various potential uses, and their respective requirements, are debated. Finally, the marketplace - users and providers - is the best judge of what can and should be made available in the way of personal, portable, or wireless services in the coming years.

To this end, each of these major areas of potential application should be adequately accommodated. The Commission should safeguard against spectrum allocations or rules that have the effect of favoring one type of application, such as microcell pedestrian applications, at the expense of providing insufficient basis for one or more others, such as wireless loop applications. In this regard, it is important to recognize that each type of application may have different performance requirements. By way of example, the growth we have seen with cellular telephone service has shown that an entirely new service capability may be acceptable to users even though the mobile performance may vary from wired performance. On the other hand, use of PCS for wireless PBX or wireless loop applications, in contexts where users view these services as a replacement for wired services, is

unlikely to be accepted unless performance the same or better than wired services can be achieved. The Commission should place the industry in the position where it, in combination with users, can make and continue to refine the trade-offs that are necessary to achieve the optimum balance of quality, cost, universality, and speed of deployment.

SPECTRUM ALLOCATIONS

HNS endorses the Commission's proposed allocation of 110 MHz for wideband applications at 2 GHz, as a suitable allocation that will adequately accommodate the new opportunities without undue sacrifice to existing users and technologies. The international acceptance of this frequency range for PCS applications makes it the strong preference for U.S. services, in order to ensure U.S. manufacturers have the maximum opportunity to compete in the world markets. Further, 110 MHz should provide sufficient bandwidth to accommodate both a range of different services and multiple providers in each market.

HNS also supports the assignment of 30 MHz per licensee at 2 GHz as the preferred option among those presented by the Commission. Twenty MHz might not provide sufficient capacity to support the economic development of certain of the potential applications. While the option of 40 MHz per licensee might be desireable, the important competition objective of having at least three licensees per market should

not be undermined. Accordingly, the assignment of 40 MHz per licensee should not be considered unless the Commission is prepared to allocate additional bandwidth.

HNS also agrees with the Commission's proposal to allocate 20 MHz for unlicensed devices. However, the separation of this allocation into three different sub-bands, for the purpose of accommodating the three different technologies, may require adjustment over time, depending upon which technologies prove to be most successful in the marketplace.

SERVICE AREAS

The Commission has invited comments on the size of the service areas that should be considered for licensing, with the options ranging from Rand McNally's 487 "Basic Trading Areas," through larger regional areas, to nationwide licenses. HNS believes there is much benefit to be gained from having service areas that correspond to well defined markets for telecommunications services, such as the current MSA and RSA cellular service areas. Besides the benefit of corresponding to established and well defined telecommunications markets, such service areas also are generally smaller that the other options presented. While larger service areas could have the potential benefit identified by the Commission, of promoting faster overall deployment of systems, HNS believes that potential advantage

is more than outweighed by the fact that smaller service areas provide the best means of ensuring broad participation by firms of all sizes. Given the flexible approach the FCC proposes to take, and should take, in the development of PCS, it seems especially important not to force an industry model characterized by large service areas, which may effectively exclude smaller firms and a wider range of ideas and innovations from the market. It is preferable to risk higher transaction costs of market consolidation, if it should occur, than to foreclose opportunities for broader participation from the outset.

ELIGIBILITY REQUIREMENTS

Again, Hughes favors a regulatory approach that will tend to promote broad participation in the market and create market opportunities for a wide range of companies. At the same time, entities with a proven record of interest, experience, and accomplishment should not be foreclosed from contributing to the realization of the benefits of PCS.

Cellular licensees - One of the clear opportunities with PCS is to offer potential major competition to cellular operators within a given service area. At the same time, existing cellular operators are companies with extensive experience in, and commitment to, bringing mobile services to the marketplace. These companies possess not only technical, operational, and management experience in mobile services, but

also the financing wherewithal to undertake new investments. HNS therefore would rather see broad participation in the industry achieved as a result of reliance on marketplace forces than through entry restrictions established by the Commission which unduly restrict the participation of such entities.

Local Exchange Carriers - The potential benefits from wireless loop applications favor allowing LECs to become PCS licensees. Further, HNS supports permitting this eligibility to include a full 30 MHz license, rather than the more limited 10 MHz license proposed by the FCC. In many potential wireless loop applications, universal coverage may be important to achieving a viable service, from the standpoint of user acceptance and value. The price of universal coverage within a designated area of operation may be relatively high infrastructure costs. Many of these infrastructure costs tend to be for system components that are the same regardless of capacity. Thus, especially for areas characterized by low population density, such as the rural areas served by many smaller, independent telephone companies, the infrastructure costs of wireless loop on a per-subscriber basis may be rather high.

A 10 MHz assignment might not offer sufficient capacity to support the infrastructure costs necessarily associated with such wireless loop applications. Restricting the capacity of a system through a limited spectrum assignment

could have the effect of making some applications unnecessarily expensive or even uneconomic.

At the same time, if LECs are eligible to become PCS licensees, it would be important that competitors have fair and non-discriminatory access to their wire systems for purposes of interconnecting their own radio systems, as the FCC has proposed.

TECHNICAL STANDARDS

There can be no doubt as to the general desirability of having a single technical standard for a new set of services, if it were feasible. However, with PCS it must be recognized that the performance requirements for each of the various types of applications - pedestrian, in-building, local loop, etc. - may be somewhat different from each other. Therefore, it may be that achieving the optimum system design for each type of application, from the standpoint of the combination of performance and cost, mandates the use of more than one PCS standard.

This need for balancing performance against cost in the context of available technology also supports the Commission's proposal to leave the development of specific standards to industry bodies. At the same time, since the determination of standards assists the development of both the technology and the markets, the Commission should foster the resolution of appropriate standards at the earliest practical date.

CONCLUSION

Hughes Network Systems strongly supports the early adoption of appropriate allocations and rules for PCS. Except as noted herein, HNS believes the direction and approach taken by the Commission in its NPRM provides a sound basis for the development and realization of this exciting new family of services. HNS commends the Commission for its work, and urges the Commission to proceed without delay with this important matter.

Respectfully submitted,

HUGHES NETWORK SYSTEMS, INC.

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